

REMARKS

The application has been amended as needed so as to place it in condition for allowance at the time of the next Official Action.

The Official Action had objected to the drawings as they allegedly failed to show every feature of the invention specified in the claims. Specifically, the Official Action indicated that "a compression force to the entire U shaped piece in order to round the section until the required roundness is obtained" must be shown or the feature canceled from the claims. No new matter should be entered.

Reconsideration of the objection to the drawings is respectfully requested for the following reasons.

As was indicated to the Examiner in a telephone conversation, all the claims are directed to a bending **method** for producing a coil having return sections bent at 180°. Section 601.01(f) of the Manual of Patent Examining Procedure (MPEP) states that it has been USPTO practice to treat an application that contains at least one process or method claim as an application for which a drawing is not necessary for an understanding of the invention. In addition, the specification explains in greater detail on page 6, lines 20-23 that this method step of applying a compression force to the entire U shaped piece in order to round the sections until the required roundness is obtained, is carried out with a press including a

mold having the shape of the U shaped piece with the required roundness. Finally, since none of the claims are drawn to an apparatus, it is believed that no additional drawings are required.

Claims 4 and 12 were rejected under 35 USC §112, second paragraph, for indefiniteness. The Official Action states that the claims are incomplete as they omit essential elements, such omissions amounting to a gap between the elements. The omitted elements are "schedule 40 to XXS". In addition, the expression "the process" in claim 11, and the expression "the return sections" in claim 12 lack sufficient antecedent basis.

Reconsideration of the above rejection is respectfully requested for the following reasons.

There is submitted herewith in the Appendix to this amendment several printouts from the Internet, which explain the schedule designation used by the industry to describe the wall cross-sectional dimension of most pipes. As can be readily appreciated from these printouts, a schedule XXS refers to a double extra strong wall. These schedule designations are well known by a person having ordinary skill in the art, as is evidenced by the accompanying printouts. Accordingly, the claims are complete within the meaning of 35 USC §112, second paragraph. With respect to the lack of antecedent basis for the expression "the process" in claim 11, and "the return sections" in claim 12,

it will be seen that these claims have been amended so as to eliminate the perceived lack of antecedent basis.

In view of the present amendment and the foregoing remarks, therefore, it is believed that this application has been placed in condition for allowance. Reconsideration and allowance on the basis of claims 1-12 are accordingly earnestly solicited.

In the event that there are any questions relating to this amendment or to the application in general, it would be appreciated if the Examiner would telephone the undersigned attorney concerning such questions so that the prosecution of this application may be expedited.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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APPENDIX:

The Appendix contains the following items:

- three printouts from the Internet, which explain the schedule designation, entitled "Hose, Pipe, and Tube Fittings", "Howell Pipe & Supply - Leader of the Pack in Customer Service", and "Carbon Steel, Pipes & Tubes, Carbon Steel Pipe, Low Temperature Carbon Steel, Buttweld Fitting, F..."

Table 4 - WALL THICKNESS DESIGNATIONS**FOR USE WITH MRC CWFG**

Schedule designation is used by industry to describe the wall cross-sectional dimension of most pipe. **Thickness class** denotes wall thickness of cast iron pipe. **Standard or Extra Strong** are terms used to denote wall thickness of Copper or Copper Alloy (including Brass or Bronze) Pipe. **Class** denotes wall thickness of lead and lead alloy pipe. **Weight** is used to denote wall thickness of case soil pipe. See Appendix C, Tables 1 through 8, for appropriate wall thickness designations.

SCHEDULE DESIGNATION for Pipe, Steel; Pipe, Corrosion Resisting Steel; Pipe Aluminum and Aluminum Alloy; Pipe, Nickel and Nickel Alloy; Pipe, Wrought Iron; and Pipe, Cast Iron, Threaded.

REPLY CODE REPLY (AA35)

AA	SCHEDULE 5
CD	SCHEDULE 5S
AB	SCHEDULE 10
BY	SCHEDULE 10S
AC	SCHEDULE 20
AD	SCHEDULE 30
AE	SCHEDULE 40
BZ	SCHEDULE 40S
AF	SCHEDULE 60
AG	SCHEDULE 80
CA	SCHEDULE 80S
AH	SCHEDULE 100
AJ	SCHEDULE 120
AK	SCHEDULE 140
AL	SCHEDULE 160
AM	SCHEDULE STD (standard)
AN	SCHEDULE XS (extra strong)
AP	SCHEDULE XXS (double extra strong)

TEXTTHICKNESS CLASS for Pipe, Cast Iron (excludes Pipe, Cast Iron, Threaded).

REPLY CODE REPLY

AQ	THICKNESS CLASS 1
AR	THICKNESS CLASS 2
AS	THICKNESS CLASS 3
AT	THICKNESS CLASS 4
AU	THICKNESS CLASS 5
AV	THICKNESS CLASS 6
AW	THICKNESS CLASS 7
AX	THICKNESS CLASS 8
AY	THICKNESS CLASS 9
AZ	THICKNESS CLASS 10
BA	THICKNESS CLASS 11
BB	THICKNESS CLASS 12
BC	THICKNESS CLASS 13
BD	THICKNESS CLASS 21
BE	THICKNESS CLASS 22

BF	THICKNESS CLASS 23
BG	THICKNESS CLASS 24
BH	THICKNESS CLASS 25
BJ	THICKNESS CLASS 26
BK	THICKNESS CLASS 27
BL	THICKNESS CLASS 28

TEXTDESIGNATION for Pipe, Copper, Copper Alloy including Brass and Bronze.

REPLY CODE REPLY

BN	EXTRA STRONG
CC	STANDARD

TEXTWEIGHT DESIGNATION for Cast Iron Soil Pipe.

REPLY CODE REPLY

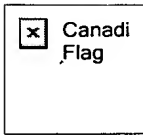
BR	EXTRA HEAVY WEIGHT
BP	SERVICE WEIGHT

TEXTCLASS DESIGNATION for Pipe, Lead and Lead Alloy.

REPLY CODE REPLY

BV	B
BW	C
BX	D
BU	100
BS	50
BT	75

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PIPE SPECIFICATION

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[Nibco Chemical Resistance Chart](#)

General Information

Dimensions (steel and wrought iron pipe)

In sizes from 1/8-inch thru 12-inch, pipe is known by its nominal inside diameter, which differs somewhat from the actual inside diameter. Early pipe manufacturers made the walls in the smaller sizes much too thick, and in correcting this error in design they took the excess from the inside to avoid changing the sizes of the companion fittings. To distinguish pipe sizes from actual measured diameters the terms iron pipe size (IPS) or nominal pipe size (NPS) are usually used. For sizes larger than 12-inch, pipe is known by its actual outside diameter. In all pipe sizes the outside diameter (OD) remains relatively constant; variations in wall thickness affect only the inside diameter (I.D.).

To distinguish different weights of pipe, three long standing traditional designations are used: standard wall (Std., extra strong wall (XS) and double extra strong wall (XXS). These last two designations are sometimes referred to as extra heavy wall (XH) and double extra heavy wall (XXH), respectively.

For the purpose of standardizing pipe dimensions, the American Standards Association (ASA), sponsored by the American Society for Testing Materials (ASTM) and the American Society of Mechanical Engineers (ASME), published ASA. B36.10. To broaden the range of wall thicknesses, schedule numbers from schedule 10 (S.10) thru schedule 160 (S.160) were adopted for steel pipe. These schedule numbers indicate approximate values for 1000 times the pressure-stress ratios. Later, stainless steel schedule numbers from schedule 5S through schedule 80S were published in ASA B36.19 for sizes thru 12-inch. The addition of the letter S after the schedule number identifies it as pertaining to stainless steel.

Certain relationships exist among the traditional designations of Std, XS, XXS, the ASA schedule numbers and the actual wall thicknesses. Std and S.40 are the same in sizes thru 10-inch; in sizes above 10-inch, Std has a wall of 3/8-inch. XS and S.80 are the same in sizes thru 8-inch; in sizes 10-inch and above, XS has a wall of 1/2-inch. XXS has no corresponding schedule number, but in sizes thru 6-inch, XXS has a wall twice as thick as XS. Stainless steel schedules 40S and 80S are identical with carbon steel designations Std and XS, respectively, thru 12-inch.

Weights for carbon steel pipe are based on a density of 0.2833 pounds per cubic inch; for wrought iron pipe the density is 0.2777 pounds per cubic inch. Since wrought iron pipe is made to steel outside diameters and steel weights per foot, the wall thicknesses of wrought iron pipe are necessarily slightly greater than steel pipe to compensate for this difference in densities. Wrought iron pipe is referred to as Std, XS, and XXS and not by schedule numbers.

Unless otherwise designated, references to pipe wall and thickness always mean the nominal, or average, wall thickness. Most ASTM tolerances on regular pipe products specify that the wall thickness of pipe at any point is to be no more than 12-1/2% under the nominal wall thickness specified. This means that a minimum wall of 0.875 times the nominal wall could apply for regular mill rolled pipe.

Unless ordered to cut lengths, at a higher price, pipe is supplied in random lengths (RL). This is due to the method of manufacture where damaged ends of each length are cut away during the finishing operations. For Std pipe a single random length usually falls in the range of 16 to 22 feet.

Threaded and coupled (T&C) pipe has threads that taper 3.4-inch per foot on the diameter for all sizes. Threads conform with the ASA B1.20.1. End to end measurements of T&C pipe include the attached coupling.

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Steel Pipe

Standard Wall

Unless otherwise specified: standard wall steel is furnished black; with threads and couplings; in random lengths; butt-weld in sizes 3-inch and smaller.

Random Lengths are considered to be 16 to 22 feet. We reserve the privilege, however, of supplying not more than 5% of the total number of lengths as "joiners" (two pieces coupled together) and, when ordered with plain ends, of supplying not over 5% of the total order in lengths 12 to 16 feet.

Cut Lengths carry an extra charge over random lengths.

Ends are available in plain (square cut) in all sizes and beveled in sizes 1-1/4 inch and larger.

Threads have a taper for all sizes of 3/4-inch per foot measured on the diameter.

Weights and dimensions are nominal. Permissible variation in weight is approximately 5% above and 5% below those shown. Weight per foot of pipe with threads and couplings is based on a length of 20 feet including coupling. Minimum wall thickness at any point shall not be more than 12.5% under nominal wall.

Extra Strong Wall

Unless otherwise specified: extra strong wall steel pipe is furnished black; with plain ends; in random lengths; butt-weld in sized 3-inch and smaller.

Please see above Standard Wall specifications for lengths, ends, and weight notes.

Double Extra Strong Wall

Unless otherwise specified: double extra strong wall steel pipe is furnished black; with plain ends; in random lengths.

Random Lengths are considered to be 12 to 22 feet. We reserve the privilege, however, of supplying not over 5% of the total order in lengths 6 to 12 feet.

Ends furnished with threads and couplings at an extra charge over plain ends.

Best viewed at 800x600 resolution.

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OUR PRODUCTS

CARBON STEEL

Range of Pipes & Tubes					
Sr. No.	Material	Size	Schedule	Specification	Manufacturer
1	Carbon Steel Pipe	15 NB To 150 NB	Sch. 40s To Sch. XXs	A-106 Gr. B Seamless	MSL / ISMT / Imported with LRS, BV & with IBR Test Certificate
		200 NB To 600 NB	Sch. 20 To Sch. 160		
2	Low Temperature Carbon Steel	15 NB To 500 NB	Sch. 40s To Sch. XXs	A-333 Gr. 6 Seamless	ISMT / MSL / Imported

Note :-

Other Specification Available	:-	BS 3059, ASTM A 53, API 5L, ST-52, ST-45.8, ASTM A 671 / 672 / 691
Boiler Tube in Gr.	:-	BS 3059, Gr. 360 / 440, SA / ASTM A 210 Gr. A 1 (with IBR Test Certificate)
Heat Exchanger Tube in Gr.	:-	SA / ASTM A 179 / 192 / 210 / 214
Other Tubes	:-	Capillary, ERW / CDW Boiler Tubes, Air Heater Tubes & Cold drawn Seamless Tubes.
Special Tube	:-	Saw Pipes Tube & Steam Pipes, Precision Tubes, Fabricated Pipe (with radiography)
In Form of	:-	Round, Square, Rectangle, Oval, Coil, Flexible Pipe, Shaft, 'U' Shape, Hydraulic Tube & Horn Tube.
In Length of	:-	Standard length, Double length & In Cut length also.
Other Services	:-	Draw & Expansion as per required Size & Length, Heat Treatment, Bending, Galvanizing, Anneling & Pickled, Sand Blasting, Machining Etc.
Test Certificate	:-	Manufacturer Test Certificate / IBR Test Certificate (Form III-D) / Laboratory Test Certificate from Govt. Approved Lab. & Under Third Party Inspection with Excise Gate Pass to avail Modvat benefit.
Specialize	:-	<ul style="list-style-type: none"> In Odd Size. Heat Exchanger & Condenser Tubes

Range Of Buttweld [B/W] Fitting

Sr. No.	Material	Size	Schedule	Specification	Item
1	Carbon Steel	15 NB To 500 NB	Sch. 40 To Sch. XXs	A-234 WPB B/W Seamless ANSI B16.9	<ul style="list-style-type: none"> ▪ Bend (Long & Short) ▪ Elbow (180°, 90° & 45°) ▪ Tee (Equal & Unequal) ▪ Reducer (Con & Ecc) ▪ CAP ▪ Stubend (Long & Short) ▪ Nipple (Barrel)
		200 NB To 600 NB	Sch. 10 To Sch. 80s	A-234 WPW B/W Welded ANSI B16.9	
2	Low Temperature Carbon Steel	15 NB To 300 NB	Sch. 40 To Sch. XXs	A-420 WPL 6 B/W Seamless ANSI B16.9	
		200 NB To 600 NB	Sch. 10 To Sch. 80s	A-420 WPL 6 B/W Welded ANSI B16.9	

Range Of Forged Fitting

Sr. No.	Material	Size	Class	Specification	Item
1	Forged Carbon Steel	15 NB To 100 NB	3000 6000 & 9000 LBS	A-105, ANSI B16.11 S/W & SCRD (As per Gauge) (NPT / BSP / BSPT)	<ul style="list-style-type: none"> ▪ Elbow - 90° & 45° ▪ Tee - Equal & Reducing ▪ Union ▪ Cross ▪ Coupling – Full, Half & Quick Release ▪ Socket (Reducing) ▪ CAP ▪ Plug-Hex & Square, ▪ Nipples (Hex/Reducing) ▪ Bushing ▪ Sokolet, Weldolet, Thredolet, Elbolet & Nipolet

Range Of Flanges

Sr. No.	Material	Size	Class	Specification	Item
1.	Forged Flanges	15 NB To 750 NB	150, 300, 600, 900 & 1500 LBS	A-105 ANSI B16.5	Flanges, SORF, WNRF, BLRF, SWRF, LAP Joint, Threaded, Reducing
2.	Plate Flanges	15 NB To 500 NB	ASA 150, ASA 300 Table D, E, F, H, DIN, ND-6, 10, 16, 25, 40	A-516, Gr.60/70 IS 2062 ANSI B16.5	SORF, BLRF, LAP Joint & Spectacle

Note :-

Other Grade Available	:-	A-350 LF2, ASTM B-333
OTHER FORMS	:-	Compression Fitting / Instrumentation / Hydraulic Fitting / & Also As Per Drawing :
Test Certificate	:-	Manufacturer Test Certificate / IBR Test Certificate (Form III-C), Under Third Party Inspection & with Excise

		Gate Pass to avail Modvat benefit.
Specialize	:-	<ul style="list-style-type: none"> Long Bend with Radius – R = 3D, 5D & 10D Pigabble Bend & IBR Fittings

Range of Sheet, Plate, Strip, Flat & Blank

Sr. No.	Material	Size	Thickness	Specification	Manufacturer
1	Carbon Steel	1220 mm x 4880 mm 1220 mm x 6000 mm 1500 mm x 6300 mm 2000 mm x 10000mm 2500 mm x 10000mm	1 mm To 150 mm	IS 2062	SAIL, Lloyds, Jindal, Essar, Shah Alloys, Ispat Etc.
2	Boiler Plate	1220 mm x 4880 mm 1500 mm x 6300 mm 2500 mm x 10000mm	5 mm To 80 mm	A-516 Gr. 60/70 IS 2002	SAIL, Lloyds, Imported Etc.

Note :-

Sheet Finishing	:-	HR, CR, CRCA Etc.
Sheet & Plate in Form of	:-	Coils, Perforated Sheet, Chequered Plate, Strip, Flats, Blank (Circle), Ring (Flange), Angle, Channel Etc.
Other Services	:-	Heat Treatment, Anneling, Pickling, Electroplating, Galvanizing, Rolling, Cutting, Bending, Forging, Minor Fabrication,
Test Certificate	:-	Manufacturer Test Certificate / IBR Test Certificate / Laboratory Test Certificate from Govt. Approved Lab. & Under Third Party Inspection with Excise Gate Pass to avail Modvat benefit.
Specialize	:-	B. Q. Profile

Range of Bar [Rod] & Wire

Sr. No.	Material	Diameter	Length	Specification	Manufacturer
1.	Carbon Steel Bars	10 mm To 500 mm	50 mm To 6000 mm Long	A-105 & LF2	Musco, Mukund Etc.

Note :-

Bar in Form of	:-	Round, Square, Hex (A/F), Rectangle, Wire (Coil Form), Wiremesh, Billet, Ingot, Casting Etc.
Other Services	:-	Machining (CNC), Heat Treatment, Anneling, Pickling, Rolling, Forging, Cutting, Bending, Minor Fabrication Etc.
Test Certificate	:-	Manufacturer Test Certificate / IBR Test Certificate / Laboratory Test Certificate from Govt. Approved Lab. & Under Third Party Inspection with Excise Gate Pass to avail Modvat benefit.
Specialize	:-	Bar IBR Approved

